



SEQUENCE LISTING

<110> James, Kenneth D.
Rahdakrishnan, Balasingham
Malkar, Navdeep B.
Miller, Mark A.
Ekwuribe, Nnochiri N.

<120> NATRIURETIC COMPOUNDS, CONJUGATES, AND USES THEREOF

<130> 9233.108

<140> US 10/723,933

<141> 2003-11-26

<150> US 60/429,151

<151> 2002-11-26

<160> 137

<170> PatentIn version 3.2

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Cys Phe Gly Arg Xaa Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly
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Cys

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Cys

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Ser Ser Ser Ser
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Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Xaa Xaa Xaa Xaa Xaa
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Xaa

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Ser Pro Xaa Met Val Gln Gly Ser Gly
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<400> 8

Ser Pro Xaa Met Val Gln
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Ser Pro Xaa Met Val
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<210> 13

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Xaa Val Leu Arg Arg His
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<210> 14

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Arg Val Leu Arg Arg
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Arg Val Leu Arg
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12 and 25 are Lys

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amino acids 1 and 25 are not Lys, cannot be Lys if amino acids 1
and 25 are Lys

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amino acids 1 and 12 are not Lys, cannot be Lys if amino acids 1
and 12 are Lys

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Xaa Met Val Gln Gly Ser Gly Cys Phe Gly Arg Xaa Met Asp Arg Ile
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Ser Ser Ser Ser Gly Leu Gly Cys Xaa
20 25

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Val Leu Arg Arg His
1 5

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Val Leu Arg Arg
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Cys Phe Gly Arg Xaa Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly
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Cys Xaa

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Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro
20 25 30

Gly Ser Ala Ser Asp Leu Glu Thr Ser Gly Leu Gln Glu Gln Arg Asn
35 40 45

His Leu Gln Gly Lys Leu Ser Glu Leu Gln Val Glu Gln Thr Ser Leu
50 55 60

Glu Pro Leu Gln Glu Ser Pro Arg Pro Thr Gly Val Trp Lys Ser Arg
65 70 75 80

Glu Val Ala Thr Glu Gly Ile Arg Gly His Arg Lys Met Val Leu Tyr
85 90 95

Thr Leu Arg Ala Pro Arg Ser Pro Lys Met Val Gln Gly Ser Gly Cys
100 105 110

Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
115 120 125

Lys Val Leu Arg Arg His
130

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Gln Gly Ser Gly
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<210> 24
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Val Gln Gly Ser Gly
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<400> 25

Met Val Gln Gly Ser Gly
1 5

<210> 26
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Lys Met Val Gln Gly Ser Gly
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Pro Lys Met Val Gln Gly Ser Gly
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Ser Pro Lys Met Val Gln Gly Ser Gly
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absent

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Met Asp Pro Gln Thr Ala Pro Ser Arg Ala Leu Leu Leu Leu Leu Phe
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Leu His Leu Ala Phe Leu Gly Gly Arg Ser His Pro Leu Gly Ser Pro

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Gly	Ser	Ala	Ser	Asp	Leu	Glu	Thr	Ser	Gly	Leu	Gln	Glu	Gln	Arg	Asn
	35						40					45			
His	Leu	Gln	Gly	Lys	Leu	Ser	Glu	Leu	Gln	Val	Glu	Gln	Thr	Ser	Leu
	50					55					60				
Glu	Pro	Leu	Gln	Glu	Ser	Pro	Arg	Pro	Thr	Gly	Val	Trp	Lys	Ser	Arg
65					70					75					80
Glu	Val	Ala	Thr	Glu	Gly	Ile	Arg	Gly	His	Arg	Lys	Met	Val	Leu	Tyr
				85					90					95	
Thr	Leu	Arg	Ala	Pro	Arg	Ser	Pro	Lys	Met	Val	Gln	Gly	Ser	Gly	
			100					105					110		

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Lys Val Leu Arg
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<210> 31
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Lys Val Leu Arg Arg
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Lys Val Leu Arg Arg His
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<222> (7)..(9)

<223> Polypeptide may be present or absent

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Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
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Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
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Ser Pro Lys Met Val Gln Gly Ser Gly
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<222> (26)..(26)

<223> Amino acid may be present or absent

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Gly	Leu	Gly	Cys	Asn	Xaa	Leu	Arg	Xaa	Tyr
			20					25	

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<400> 36

Asn	Val	Leu	Arg	Arg	Tyr
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Asn Val Leu Arg Arg
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<400> 38

Asn Val Leu Arg Tyr
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Asn Val Leu Arg
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Asn Ser Phe Arg Tyr
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 <223> Xaa may be Leu or Ser

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Arg Ile Lys Met Xaa Ser Xaa Ser Gly Leu Gly Cys
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 <223> Xaa may be Asp, Lys, or Gly

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Xaa Xaa Xaa Xaa Ser Gly
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Lys Xaa Xaa Xaa Xaa Ser Gly

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Pro Lys Xaa Xaa Xaa Xaa Ser Gly

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<222> (4) .. (4)
<223> Xaa may be Thr or Met

<220>
<221> MISC_FEATURE
<222> (5) .. (5)
<223> Xaa may be Met or Val

<220>
<221> MISC_FEATURE
<222> (6) .. (6)
<223> Xaa may be Arg, His, or Gln

<220>
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<222> (7) .. (7)
<223> Xaa may be Asp, Lys, or Gly

<400> 47

Ser Pro Lys Xaa Xaa Xaa Xaa Ser Gly
1 5

<210> 48
<211> 4
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<220>
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<400> 48

Xaa Val Leu Arg
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<210> 49
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<223> Xaa may be Asn or Lys

<220>

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<222> (5)..(5)

<223> Xaa may be Arg or Lys

<400> 49

Xaa Val Leu Arg Xaa

1 5

<210> 50

<211> 6

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<220>

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<222> (5)..(5)

<223> Xaa may be Arg or Lys

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> Xaa may be Tyr or His

<400> 50

Xaa Val Leu Arg Xaa Xaa

1 5

<210> 51

<211> 26

<212> PRT

<213> Artificial sequence

<220>

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<220>
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 <223> Xaa cannot be Asn if amino acid 25 is Arg and amino acid 26 is Tyr

<220>
 <221> MISC_FEATURE
 <222> (25)..(25)
 <223> Xaa cannot be Arg if amino acid 21 is Asn and amino acid 26 is Tyr

<220>
 <221> MISC_FEATURE
 <222> (26)..(26)
 <223> Xaa cannot be Tyr if amino acid 21 is Asn and amino acid 25 is Arg

<400> 51

Asp	Ser	Gly	Cys	Phe	Gly	Arg	Arg	Leu	Asp	Arg	Ile	Gly	Ser	Leu	Ser
1				5				10						15	

Gly	Leu	Gly	Cys	Xaa	Val	Leu	Arg	Xaa	Xaa
			20					25	

<210> 52
 <211> 6
 <212> PRT
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<220>
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<400> 52

Asn	Val	Leu	Arg	Arg	Tyr
1			5		

<210> 53
 <211> 32
 <212> PRT
 <213> Artificial sequence

<220>
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<220>
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 <223> Polypeptide may be present or absent

<220>
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 <222> (7)..(9)
 <223> Polypeptide may be present or absent

<400> 53

Ser	Pro	Lys	Met	Val	Gln	Gly	Ser	Gly	Cys	Phe	Gly	Arg	Lys	Met	Asp
1				5					10					15	

Arg	Ile	Ser	Ser	Ser	Ser	Gly	Leu	Gly	Cys	Lys	Val	Leu	Arg	Arg	His
			20					25					30		

<210> 54
 <211> 9
 <212> PRT
 <213> Artificial sequence

<220>
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<400> 54

Ser	Pro	Lys	Met	Val	Gln	Gly	Ser	Gly
1				5				

<210> 55
 <211> 10
 <212> PRT
 <213> Artificial sequence

<220>
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<400> 55

His	His	His	His	His	His	Ala	Asp	Gly	Glu
1				5					10

<210> 56
 <211> 4
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Leader sequence

<400> 56

Ala	Asp	Gly	Glu
1			

<210> 57
<211> 8
<212> PRT
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<220>
<223> Spacer sequence

<400> 57

Arg Arg Asp Ala Glu Asp Pro Arg
1 5

<210> 58
<211> 5
<212> PRT
<213> Artificial sequence

<220>
<223> Leader sequence

<400> 58

Glu Gly Asp Arg Arg
1 5

<210> 59
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Extension sequence

<400> 59

His His His His His His Glu Gly Asp Arg Arg
1 5 10

<210> 60
<211> 8
<212> PRT
<213> Artificial sequence

<220>
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<400> 60

Arg Arg Asp Ala Glu Asp Arg Arg
1 5

<210> 61

<211> 12
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 <223> Xaa can be any naturally occurring amino acid

 <400> 61

 His His His His His His Xaa Glu Gly Asp Arg Arg
 1 5 10

 <210> 62
 <211> 8
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 <220>
 <223> Spacer sequence

 <400> 62

 Arg Gly Asp Ala Glu Asp Pro Arg
 1 5

 <210> 63
 <211> 5
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 <220>
 <223> Leader sequence

 <400> 63

 Glu Gly Asp Pro Arg
 1 5

 <210> 64
 <211> 11
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 <213> Artificial sequence

 <220>
 <223> Extension sequence

 <400> 64

His His His His His His Glu Gly Asp Pro Arg
 1 5 10

<210> 65
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<220>
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<400> 65

Ala Arg Gly Asp Ala Glu Asp Pro Arg
 1 5

<210> 66
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<220>
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<220>
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 <223> Xaa can be any naturally occurring amino acid

<400> 66

His His His His His His Xaa Met Met
 1 5

<210> 67
 <211> 5
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<220>
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<400> 67

Asp Asp Ala Gly Glu
 1 5

<210> 68
 <211> 10
 <212> PRT
 <213> Artificial sequence

<220>
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 <400> 68

 His His His His His His Ala Asp Gly Glu
 1 5 10

<210> 69
 <211> 4
 <212> PRT
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<220>
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 <400> 69

Glu Ala Gly Glu
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<210> 70
 <211> 4
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Leader sequence

 <400> 70

Glu Gly Asp Ala
 1

<210> 71
 <211> 11
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Extension sequence

 <400> 71

Glu Gly Asp Ala His His His His His His Glu
 1 5 10

<210> 72
 <211> 11
 <212> PRT
 <213> Artificial sequence

<220>

<223> Extension sequence

<400> 72

Glu His His His His His His Ala Asp Gly Glu
1 5 10

<210> 73

<211> 32

<212> PRT

<213> Homo sapiens

<220>

<221> DISULFID

<222> (10)..(26)

<223> Disulfide bond may be present or absent

<400> 73

Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
1 5 10 15

Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
20 25 30

<210> 74

<211> 32

<212> PRT

<213> Homo sapiens

<220>

<221> MOD_RES

<222> (1)..(1)

<223> A modifying moiety may be present

<220>

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<222> (31)..(31)

<223> Xaa is not Arg

<400> 74

Thr Ala Pro Arg Ser Leu Arg Arg Ser Ser Cys Phe Gly Gly Arg Met
1 5 10 15

Asp Arg Ile Gly Ala Gln Ser Gly Leu Gly Cys Asn Ser Phe Xaa Tyr
20 25 30

<210> 75

<211> 32

<212> PRT
<213> Canis familiaris

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<223> Xaa can be any naturally occurring amino acid

<220>
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<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> misc_feature
<222> (31)..(31)
<223> Xaa can be any naturally occurring amino acid

<400> 75

Ser Pro Xaa Met Met His Xaa Gly Gly Cys Phe Gly Arg Arg Leu Asp
1 5 10 15

Arg Ile Gly Ser Leu Ser Gly Leu Gly Cys Asn Val Leu Arg Xaa Tyr
20 25 30

<210> 76
<211> 38
<212> PRT
<213> Homo sapiens

<220>
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<223> Xaa can be any naturally occurring amino acid

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<222> (11)..(11)
<223> Xaa can be any naturally occurring amino acid

<400> 76

Glu Val Xaa Tyr Asp Pro Cys Phe Gly His Xaa Ile Asp Arg Ile Asn
1 5 10 15

His Val Ser Asn Leu Gly Cys Pro Ser Leu Arg Asp Pro Arg Pro Asn
20 25 30

Ala Pro Ser Thr Ser Ala
35

<210> 77
 <211> 22
 <212> PRT
 <213> Homo sapiens

<400> 77

Gly Leu Ser Lys Gly Cys Phe Gly Leu Lys Leu Asp Arg Ile Gly Ser
 1 5 10 15

Met Ser Gly Leu Gly Cys
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<210> 78
 <211> 28
 <212> PRT
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (12)..(12)
 <223> Xaa can be any naturally occurring amino acid

<400> 78

Ser Leu Arg Arg Ser Ser Cys Phe Gly Gly Arg Xaa Asp Arg Ile Gly
 1 5 10 15

Ala Gln Ser Gly Leu Gly Cys Asn Ser Phe Arg Tyr
 20 25

<210> 79
 <211> 17
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Natriuretic peptide

<220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> Xaa may be any amino acid other than Lys

<400> 79

Cys Phe Gly Arg Xaa Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly
 1 5 10 15

Cys

<210> 80
<211> 36
<212> PRT
<213> Artificial sequence

<220>
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<220>
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<223> Xaa may be any naturally occurring amino acid, and may be present or absent

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<222> (28)..(28)
<223> Xaa may be any naturally occurring amino acid, and may be present or absent

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<223> Xaa may be any naturally occurring amino acid, and may be present or absent

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<223> Xaa may be any naturally occurring amino acid, and may be present or absent

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<223> Xaa may be any naturally occurring amino acid, and may be present or absent

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<221> MISC_FEATURE
 <222> (34)..(34)
 <223> Xaa may be any naturally occurring amino acid, and may be present or absent

<220>
 <221> misc_feature
 <222> (35)..(35)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> MISC_FEATURE
 <222> (36)..(36)
 <223> Xaa may be any naturally occurring amino acid, and may be present or absent

<400> 80

Ser	Pro	Arg	Met	Val	Gln	Gly	Ser	Gly	Cys	Phe	Gly	Arg	Lys	Met	Asp
1				5					10					15	

Arg	Ile	Ser	Ser	Ser	Ser	Gly	Leu	Gly	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			20					25					30		

Xaa	Xaa	Xaa	Xaa
			35

<210> 81
 <211> 6
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Natriuretic peptide sequence

<400> 81

Arg	Val	Leu	Arg	Arg	His
1				5	

<210> 82
 <211> 32
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Natriuretic peptide

<220>
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 <222> (3)..(3)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> MISC_FEATURE
 <222> (14)..(14)
 <223> Xaa may be any amino acid other than Lys

<220>
 <221> misc_feature
 <222> (27)..(27)
 <223> Xaa can be any naturally occurring amino acid

<400> 82

Ser	Pro	Xaa	Met	Val	Gln	Gly	Ser	Gly	Cys	Phe	Gly	Arg	Xaa	Met	Asp
1				5					10					15	

Arg	Ile	Ser	Ser	Ser	Ser	Gly	Leu	Gly	Cys	Xaa	Val	Leu	Arg	Arg	His
			20					25					30		

<210> 83
 <211> 32
 <212> PRT
 <213> Artificial sequence

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<220>
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 <222> (1)..(1)

<220>
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 <222> (14)..(14)
 <223> Xaa is not Lys

<220>
 <221> MISC_FEATURE
 <222> (27)..(27)
 <223> Xaa is not Lys

<400> 83

Ser	Pro	Lys	Met	Val	Gln	Gly	Ser	Gly	Cys	Phe	Gly	Arg	Xaa	Met	Asp
1				5					10					15	

Arg	Ile	Ser	Ser	Ser	Ser	Gly	Leu	Gly	Cys	Xaa	Val	Leu	Arg	Arg	His
			20					25					30		

<210> 84
 <211> 19
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<213> Artificial sequence

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<223> Natriuretic peptide

<220>

<221> misc_feature

<222> (1)..(1)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> misc_feature

<222> (19)..(19)

<223> Xaa can be any naturally occurring amino acid

<400> 84

Xaa	Cys	Phe	Gly	Arg	Arg	Met	Asp	Arg	Ile	Ser	Ser	Ser	Ser	Gly	Leu
1				5					10					15	

Gly Cys Xaa

<210> 85

<211> 10

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 85

Ser	Pro	Lys	Met	Val	Gln	Gly	Ser	Gly	Cys
1			5					10	

<210> 86

<211> 9

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 86

Pro	Lys	Met	Val	Gln	Gly	Ser	Gly	Cys
1			5					

<210> 87

<211> 8

<212> PRT

<213> Artificial sequence

<220>
<223> Natriuretic peptide sequence

<400> 87

Lys Met Val Gln Gly Ser Gly Cys
1 5

<210> 88
<211> 7
<212> PRT
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<220>
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<400> 88

Met Val Gln Gly Ser Gly Cys
1 5

<210> 89
<211> 6
<212> PRT
<213> Artificial sequence

<220>
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<400> 89

Val Gln Gly Ser Gly Cys
1 5

<210> 90
<211> 5
<212> PRT
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<220>
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<400> 90

Gln Gly Ser Gly Cys
1 5

<210> 91
<211> 4
<212> PRT
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<220>
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<400> 91

Gly Ser Gly Cys
1

<210> 92
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<400> 92

Ser Pro Lys Met
1

<210> 93
<211> 5
<212> PRT
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<220>
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<400> 93

Ser Pro Lys Met Val
1 5

<210> 94
<211> 6
<212> PRT
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<220>
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<400> 94

Ser Pro Lys Met Val Gln
1 5

<210> 95
<211> 4
<212> PRT
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<220>
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<400> 95

Lys Met Val Gln

1

<210> 96

<211> 5

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 96

Lys Met Val Gln Gly

1

5

<210> 97

<211> 6

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 97

Lys Met Val Gln Gly Ser

1

5

<210> 98

<211> 7

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 98

Lys Met Val Gln Gly Ser Gly

1

5

<210> 99

<211> 8

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 99

Lys Met Val Gln Gly Ser Gly Cys
1 5

<210> 100

<211> 6

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 100

Lys Val Leu Arg Arg His
1 5

<210> 101

<211> 5

<212> PRT

<213> Artificial sequence

<220>

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<400> 101

Lys Val Leu Arg Arg
1 5

<210> 102

<211> 4

<212> PRT

<213> Artificial sequence

<220>

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<400> 102

Lys Val Leu Arg
1

<210> 103

<211> 6

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 103

Arg Val Leu Arg Arg His
1 5

<210> 104

<211> 5

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 104

Arg Val Leu Arg Arg
1 5

<210> 105

<211> 4

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide sequence

<400> 105

Arg Val Leu Arg
1

<210> 106

<211> 29

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Xaa is not Lys

<400> 106

Ser Pro Xaa Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
1 5 10 15

Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu
20 25

<210> 107
 <211> 26
 <212> PRT
 <213> Artificial sequence

<220>
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<220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> Xaa is not Lys

<400> 107

Ser	Pro	Xaa	Met	Val	Gln	Gly	Ser	Gly	Cys	Phe	Gly	Arg	Lys	Met	Asp
1				5					10					15	

Arg	Ile	Ser	Ser	Ser	Ser	Gly	Leu	Gly	Cys
			20				25		

<210> 108
 <211> 33
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Natriuretic peptide

<220>
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<220>
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 <222> (2)..(2)
 <223> Xaa may be any naturally occurring amino acid and may be present or absent

<220>
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 <222> (3)..(3)
 <223> Xaa may be any naturally occurring amino acid and may be present or absent

<220>
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 <222> (4)..(4)
 <223> Xaa may be any naturally occurring amino acid and may be present

or absent

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Xaa may be any naturally occurring amino acid and may be present or absent

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<221> MISC_FEATURE

<222> (6)..(6)

<223> Xaa may be any naturally occurring amino acid and may be present or absent

<220>

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<222> (7)..(7)

<223> Xaa may be any naturally occurring amino acid and may be present or absent

<220>

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<222> (8)..(8)

<223> Xaa may be any naturally occurring amino acid and may be present or absent

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<222> (9)..(9)

<223> Xaa may be any naturally occurring amino acid and may be present or absent

<220>

<221> MISC_FEATURE

<222> (10)..(10)

<223> Xaa may be any naturally occurring amino acid and may be present or absent

<400> 108

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Phe Gly Arg Arg Met
1 5 10 15

Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Arg Val Leu Arg Arg
20 25 30

His

<210> 109

<211> 17

<212> PRT

<213> Artificial sequence

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<220>
<223> Natriuretic peptide

<220>
<221> misc_feature
<222> (5)..(5)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> Xaa may be Ser or Lys

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> Xaa is Ser and may be present or absent

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa is Ser and may be present or absent

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> Xaa is Ser and may be present or absent

<400> 109

Cys Phe Gly Arg Xaa Met Asp Arg Ile Xaa Xaa Xaa Xaa Gly Leu Gly
1          5          10          15

Cys

<210> 110
<211> 32
<212> PRT
<213> Artificial sequence

<220>
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<220>
<221> MISC_FEATURE
<222> (30)..(30)
<223> Xaa is not Arg

<400> 110

Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
1          5          10          15

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Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Arg Xaa Arg His
 20 25 30

<210> 111
 <211> 32
 <212> PRT
 <213> Artificial sequence

<220>
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<220>
 <221> MISC_FEATURE
 <222> (27)..(27)
 <223> Xaa is not Lys

<400> 111

Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1 5 10 15

Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Xaa Val Leu Arg Arg His
 20 25 30

<210> 112
 <211> 33
 <212> PRT
 <213> Artificial sequence

<220>
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<220>
 <221> MISC_FEATURE
 <222> (33)..(33)
 <223> Xaa may be Lys or Cys

<400> 112

Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
 1 5 10 15

Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His
 20 25 30

Xaa

<210> 113
 <211> 26
 <212> PRT
 <213> Artificial sequence

 <220>
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 <220>
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 <222> (3)..(3)
 <223> Xaa is not Lys

 <220>
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 <222> (14)..(14)
 <223> Xaa is not Lys

 <220>
 <221> MISC_FEATURE
 <222> (23)..(23)
 <223> Xaa may be Gly, Met, Leu, Phe, Ile, or a conservative substitution thereof

 <220>
 <221> MISC_FEATURE
 <222> (24)..(24)
 <223> Xaa may be Leu, Trp, Tyr, Phe, or a conservative substitution thereof

 <220>
 <221> MISC_FEATURE
 <222> (25)..(25)
 <223> Xaa may be Gly, Arg, or a conservative substitution thereof

 <400> 113

 Ser Pro Xaa Met Val Gln Gly Ser Gly Cys Phe Gly Arg Xaa Met Asp
 1 5 10 15

 Arg Ile Ser Ser Ser Ser Xaa Xaa Xaa Cys
 20 25

 <210> 114
 <211> 23
 <212> PRT
 <213> Artificial sequence

 <220>
 <223> Natriuretic peptide

 <220>

<221> MISC_FEATURE
 <222> (10)..(10)
 <223> Xaa may be Thr, Ala, Arg, His, Pro, or Glu

<220>
 <221> MISC_FEATURE
 <222> (12)..(12)
 <223> Xaa may be Lys, Asn, Arg, Ser, Asp, or Pro

<220>
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 <222> (12)..(12)
 <223> Methylation if Xaa is Asn

<220>
 <221> MISC_FEATURE
 <222> (17)..(17)
 <223> Xaa is not Gly

<220>
 <221> MOD_RES
 <222> (17)..(17)
 <223> Xaa may be Orn, Har, p-amidinophenyl Ala, or Ile

<400> 114

Lys	Cys	Phe	Lys	Gly	Lys	Asn	Asp	Arg	Xaa	Lys	Xaa	Gln	Ser	Gly	Leu
1			5						10					15	

Xaa	Cys	Asn	Ser	Phe	Lys	Tyr
					20	

<210> 115
 <211> 195
 <212> PRT
 <213> Artificial sequence

<220>
 <223> BNP pro-pentapeptide

<400> 115

His	His	His	His	His	His	Glu	Gly	Asp	Arg	Arg	Ser	Pro	Lys	Met	Val
1				5					10					15	

Gln	Gly	Ser	Gly	Cys	Phe	Gly	Arg	Lys	Met	Asp	Arg	Ile	Ser	Ser	Ser
			20					25					30		

Ser	Gly	Leu	Gly	Cys	Lys	Val	Leu	Arg	Arg	His	Arg	Arg	Asp	Ala	Glu
		35					40					45			

Asp	Ser	Pro	Lys	Met	Val	Gln	Gly	Ser	Gly	Cys	Phe	Gly	Arg	Lys	Met
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

50	55	60
Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg		
65	70	75 80
His Arg Arg Asp Ala Glu Asp Ser Pro Lys Met Val Gln Gly Ser Gly		
	85	90 95
Cys Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly		
	100	105 110
Cys Lys Val Leu Arg Arg His Arg Arg Asp Ala Glu Asp Ser Pro Lys		
	115	120 125
Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp Arg Ile Ser		
	130	135 140
Ser Ser Ser Gly Leu Gly Cys Lys Val Leu Arg Arg His Arg Arg Asp		
145	150	155 160
Ala Glu Asp Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg		
	165	170 175
Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu		
	180	185 190
Arg Arg His		
	195	

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<210> 116
<211> 29
<212> PRT
<213> Artificial sequence

<220>
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<220>
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<223> Xaa may be Lys, Arg, or Gly, must be Lys if amino acids 13 and 26
are not Lys

<220>
<221> MISC_FEATURE
<222> (13)..(13)

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<223> Xaa may be Lys, Arg, or Gly, must be Lys if amino acids 2 and 26 are not Lys

<220>

<221> MISC_FEATURE

<222> (26)..(26)

<223> Xaa may be Lys, Arg, or Gly, must be Lys if amino acids 2 and 13 are not Lys

<400> 116

Pro	Xaa	Met	Val	Gln	Gly	Ser	Gly	Cys	Phe	Gly	Arg	Xaa	Met	Asp	Arg
1				5					10					15	

Ile	Ser	Ser	Ser	Ser	Gly	Leu	Gly	Cys	Xaa	Val	Leu	Arg
				20				25				

<210> 117

<211> 37

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide

<220>

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<222> (1)..(1)

<223> Xaa may be any naturally occurring amino acid, and may be present or absent

<220>

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<222> (2)..(2)

<223> Xaa may be any naturally occurring amino acid, and may be present or absent

<220>

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<222> (3)..(3)

<223> Xaa may be any naturally occurring amino acid, and may be present or absent

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<222> (4)..(4)

<223> Xaa may be any naturally occurring amino acid, and may be present or absent

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<222> (5)..(5)

<223> Xaa may be any naturally occurring amino acid, and may be present or absent

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<220>
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<220>
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 <222> (10)..(10)
 <223> Xaa can be any naturally occurring amino acid

<220>
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 <222> (11)..(27)
 <223> Disulfide bond may be present or absent

<220>
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 <222> (15)..(15)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> misc_feature
 <222> (28)..(28)
 <223> Xaa can be any naturally occurring amino acid

<220>
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 <223> Xaa may be any naturally occurring amino acid, and may be present or absent

<220>
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 <223> Xaa may be any naturally occurring amino acid, and may be present or absent

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 <223> Xaa may be any naturally occurring amino acid, and may be present or absent

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 <223> Xaa may be any naturally occurring amino acid, and may be present or absent

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 <222> (37)..(37)
 <223> Xaa may be any naturally occurring amino acid, and may be present or absent

<400> 117

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Phe Gly Arg Xaa Met
 1 5 10 15

Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Xaa Xaa Xaa Xaa Xaa
 20 25 30

Xaa Xaa Xaa Xaa Xaa
 35

<210> 118

<211> 4
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide sequence

<400> 118

Gln Gly Ser Gly
1

<210> 119
<211> 5
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide sequence

<400> 119

Val Gln Gly Ser Gly
1 5

<210> 120
<211> 6
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide sequence

<400> 120

Met Val Gln Gly Ser Gly
1 5

<210> 121
<211> 8
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide sequence

<400> 121

Pro Lys Met Val Gln Gly Ser Gly
1 5

<210> 122
<211> 9

<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide sequence

<400> 122

Ser Pro Lys Met Val Gln Gly Ser Gly
1 5

<210> 123
<211> 29
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide

<400> 123

Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
1 5 10 15

Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Lys Val Leu
20 25

<210> 124
<211> 26
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide

<400> 124

Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp
1 5 10 15

Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys
20 25

<210> 125
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<220>
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 <222> (3)..(3)
 <223> Xaa may be Gly, Arg, or Lys

<400> 125

Ser Pro Xaa Met Val Gln Gly Ser Gly
 1 5

<210> 126
 <211> 25
 <212> PRT
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<220>
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<220>
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<220>
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 <223> Xaa may be Lys, Gly, or Arg

<220>
 <221> MISC_FEATURE
 <222> (25)..(25)
 <223> Xaa may be Lys, Gly, or Arg

<400> 126

Xaa Met Val Gln Gly Ser Gly Cys Phe Gly Arg Xaa Met Asp Arg Ile
 1 5 10 15

Ser Ser Ser Ser Gly Leu Gly Cys Xaa
 20 25

<210> 127
 <211> 24
 <212> PRT
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<220>
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<220>
 <221> DISULFID
 <222> (8)..(8)

<220>
<221> DISULFID
<222> (24)..(24)

<400> 127

Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Lys Met Asp Arg Ile
1 5 10 15

Ser Ser Ser Ser Gly Leu Gly Cys
20

<210> 128
<211> 17
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide

<400> 128

Cys Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly
1 5 10 15

Cys

<210> 129
<211> 18
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide

<400> 129

Cys Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly
1 5 10 15

Cys Lys

<210> 130
<211> 23
<212> PRT
<213> Artificial sequence

<220>

<223> Natriuretic peptide

<400> 130

Cys Phe Gly Arg Lys Met Asp Arg Ile Ser Ser Ser Ser Gly Leu Gly
1 5 10 15

Cys Lys Val Leu Arg Arg His
20

<210> 131

<211> 32

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide

<220>

<221> misc_feature

<222> (14)..(14)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> misc_feature

<222> (27)..(27)

<223> Xaa can be any naturally occurring amino acid

<400> 131

Ser Pro Lys Met Val Gln Gly Ser Gly Cys Phe Gly Arg Xaa Met Asp
1 5 10 15

Arg Ile Ser Ser Ser Ser Gly Leu Gly Cys Xaa Val Leu Arg Arg His
20 25 30

<210> 132

<211> 17

<212> PRT

<213> Artificial sequence

<220>

<223> Natriuretic peptide

<220>

<221> misc_feature

<222> (5)..(5)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> misc_feature

<222> (15)..(15)
<223> Xaa can be any naturally occurring amino acid

<400> 132

Cys	Phe	Gly	Arg	Xaa	Met	Asp	Arg	Ile	Ser	Ser	Ser	Ser	Gly	Xaa	Gly
1				5					10					15	

Cys

<210> 133
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide sequence

<220>
<221> misc_feature
<222> (3)..(3)
<223> Xaa can be any naturally occurring amino acid

<400> 133

Ser	Pro	Xaa	Met	Val	Gln	Gly	Ser	Gly
1			5					

<210> 134
<211> 6
<212> PRT
<213> Artificial sequence

<220>
<223> Natriuretic peptide sequence

<220>
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<222> (1)..(1)
<223> Xaa may not be Lys

<400> 134

Xaa	Val	Leu	Arg	Arg	His
1			5		

<210> 135
<211> 28
<212> PRT
<213> Artificial sequence

<220>
 <223> Natriuretic peptide

<220>
 <221> MISC_FEATURE
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 <223> Xaa may be any naturally occurring amino acid, and may be present or absent

<220>
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<220>
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 <222> (9)..(9)
 <223> Xaa can be any naturally occurring amino acid

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<220>
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<220>
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<222> (23)..(23)
<223> Xaa can be any naturally occurring amino acid

<220>
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or absent

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or absent

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or absent

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or absent

<220>
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<222> (28)..(28)
<223> Xaa may be any naturally occurring amino acid, and may be present
or absent

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<400> 135

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Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Phe Gly Arg Xaa Met Asp
1           5           10          15

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Arg Ile Gly Leu Gly Cys Xaa Xaa Xaa Xaa Xaa Xaa
20          25

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<210> 136
<211> 37
<212> PRT
<213> Artificial sequence

<220>

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<223> Natriuretic peptide

<220>
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 <223> Xaa may be any naturally occurring amino acid, and may be present or absent

<220>
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<220>
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 <223> Xaa can be any naturally occurring amino acid

<220>
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<220>
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 <223> Xaa can be any naturally occurring amino acid

<220>
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<400> 136

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Phe	Gly	Arg	Xaa	Met
1				5					10						15	

Asp	Arg	Ile	Xaa	Xaa	Xaa	Xaa	Gly	Leu	Gly	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	
			20					25					30			

Xaa	Xaa	Xaa	Xaa	Xaa	
					35

<210> 137
 <211> 32
 <212> PRT
 <213> Artificial sequence

<220>
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<220>
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 <223> Xaa may be Lys, Arg, or His

<220>
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 <222> (31)..(31)
 <223> Xaa may be Arg or His

<400> 137

Ser	Pro	Xaa	Met	Met	His	Xaa	Ser	Gly	Cys	Phe	Gly	Arg	Arg	Leu	Asp
1				5					10					15	

Arg	Ile	Gly	Ser	Leu	Ser	Gly	Leu	Gly	Cys	Asn	Val	Leu	Arg	Xaa	Tyr
			20					25					30		